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| 10/040,453 | 01/09/2002 | Masanori Miyoshi | 503.41022X00 | 2617 |

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| EXAMINER | |
|---|---|
| DESHPANDE, KALYAN K | |
| **ART UNIT** | **PAPER NUMBER** |
| 3623 | |

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/040,453 | MIYOSHI ET AL. | |
| | Examiner | Art Unit | |
| | Kalyan K. Deshpande | 3623 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *26 March 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-6 and 15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6 and 15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

### *Introduction*

1. The following is a final office action in response to the communications received on March 26, 2007. Claims 1-6 and 15 are now pending in this application.

### *Response to Amendments*

2. Applicants' amendments to claims 1-5 and 15 are acknowledged. Applicants' cancellation of claims 7-14 is acknowledged.

### *Response to Arguments*

3. Applicants' arguments filed on March 26, 2007 have been fully considered but are moot in view of the new ground(s) of rejection in part and not found persuasive in part. Applicants' argue i) Dabbiere and Grajo fail to teach "management information generating means having moving body identifying means for identifying said moving body, and movement cost-calculating means for calculating a cost expended on movement of said moving body from said flow line information", ii) Dabbiere and Grajo fail to teach "the movement cost-calculating means calculates the movement cost based on a time unit price specific to the identified moving body and a time period required for the movement as the movement cost", and iii) Dabbiere and Grajo fail to teach "the time unit price is a value corresponding to the cost of moving the moving body per unit of time and the time period is the length of time it takes to move the moving body along the length of said flow line".

In response to Applicants argument Dabbiere and Grajo fail to teach "management information generating means having moving body identifying means for

identifying said moving body, and movement cost-calculating means for calculating a cost expended on movement of said moving body from said flow line information", Examiner respectfully disagrees. Dabbiere teaches "a management information generating means for producing management information for management from said flow line information" (see column 3 lines 12-35 and figures 1 and 2; where the monitoring of equipment provides management with information to scrutinize and analyze.) and "movement cost-calculating means for calculating a cost expended on movement of said moving body from said flow line information" (see column 3 lines 1-5 and figure 3; where data is analyzed to determine the productivity of the moving body. Determining the productivity is the same as determining an expended cost.). Furthermore, Applicants' arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

In response to Applicants' argument Dabbiere and Grajo fail to teach "the movement cost-calculating means calculates the movement cost based on a time unit price specific to the identified moving body and a time period required for the movement as the movement cost", Examiner respectfully disagrees. Grajo teaches "said movement cost-calculating means calculates said movement cost based on a time unit price specific to said identified moving body and a time period required for said movement as said movement cost" (see Grajo pp. 510-511; where the LayOPT software package tracks the flow. The flow is defined as the movement of parts,

information, or people. The flow is measured with weight factors that are represented by unit costs.). Specifically, the language of the claims only calls for time unit price where Grajo explicitly teaches a time unit price expressed in cost per hour. Furthermore, Applicants' arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

Applicants' argument, Dabbiere and Grajo fail to teach "the time unit price is a value corresponding to the cost of moving the moving body per unit of time and the time period is the length of time it takes to move the moving body along the length of said flow line" is moot under new grounds of rejection discussed below.

***Election/Restrictions***

4. Applicant's election without traverse of claims 1-6 and 15 in the reply filed on July 5, 2006 is acknowledged.

***Claim Objections***

5. Claim 15 is objected to under 37 CFR 1.75(c)because claim 15 is a multiple dependant claim presented in an improper form. Claim 15 is dependant on "any one of claim 1 to claim 3 *and* claim 5 *and* claim 6" (emphasis added). Multiple dependant claims must be presented in the alternative form. *See MPEP* § 608.01(n). Claim 15 is properly presented in the alternative as being dependent on claim 1 to claim 3, and then improperly dependent on claim 5 and claim 6. ***Furthermore, claim 5 is dependant on***

***claim 4, which is a multiple dependant claim and thus it would be improper for claim 15 to be dependant on claim 5***. Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1, 3-6 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dabbiere (U.S. Patent No. 6965876) in view of Grajo (Grajo, Eric; "Strategic Layout Planning and Simulation for Lean Manufacturing: A LayOPT Tutorial", *Proceedings of the 1995 Winter Simulation Conference*, 1995) and in further view of Brandeau et al. (Brandeau, Margaret L.; Chiu, Samuel S.; "An Overview of Representative Problems in Location Research", *Management Science*, June 1989).

As per claim 1, Dabbiere teaches:

A facility management system comprising

a flow line-measuring means for measuring a flow line of a moving body by detecting said moving body in a facility to be monitored and outputting flowline information based on said measuring of said flow line (see column 3 lines 17-55 and figures 1 and 2; where the flow of equipment is monitored and is output by transmitting the information.); and

a management information generating means for producing management information for management from said flow line information (see column 3 lines 12-

35 and figures 1 and 2; where the monitoring of equipment provides management with information to scrutinize and analyze.), wherein

wherein said management information generating means comprises:

moving body identifying means for identifying said moving body (see column 3 lines 17-35; where the object moving is identified and tracked.); and

movement cost-calculating means for calculating a cost expended on movement of said moving body from said flow line information (see column 3 lines 1-5 and figure 3; where data is analyzed to determine the productivity of the moving body. Determining the productivity is the same as determining an expended cost.).

Dabbiere fails to explicitly teach "said movement cost-calculating means calculates said movement cost based on a time unit price specific to said identified moving body and a time period required for said movement as said movement cost" and "the time unit price is a value corresponding to the cost of moving the moving body per unit of time and the time period is the length of time it takes to move the moving body along the length of said flow line". Grajo teaches "said movement cost-calculating means calculates said movement cost based on a time unit price specific to said identified moving body and a time period required for said movement as said movement cost" (see Grajo pp. 510-511; where the LayOPT software package tracks the flow. The flow is defined as the movement of parts, information, or people. The flow is measured with weight factors that are represented by unit costs.). Brandeau teaches "the time unit price is a value corresponding to the cost of moving the moving body per unit of time and the time period is the length of time it takes to move the moving body along the

length of said flow line" (see Brandeau pp. 646-647; where the time unit price is a cost moving parameter that is calculated using either a distance cost parameter or a time cost parameter such that the time or distance costs are optimally minimized.). The advantage of these steps is that they clearly enable a user to design or redesign an optimal floor layout for a facility. It would have been obvious, at the time of the invention, to one of ordinary skill in the art to combine the features of "said movement cost-calculating means calculates said movement cost based on a time unit price specific to said identified moving body and a time period required for said movement as said movement cost" and "the time unit price is a value corresponding to the cost of moving the moving body per unit of time and the time period is the length of time it takes to move the moving body along the length of said flow line" taught by Grajo and Brandeau to Dabbiere in order to clearly design or redesign an optimal floor layout for a facility, which are a goals of Grajo and Brandeau (see Grajo p. 510 and Brandeau pp. 645-646).

As per claim 2, Dabbiere fails to explicitly teach "the flow line includes a plurality of sections corresponding to the plurality of moving means and said movement cost-calculating means calculates a total sum of values as said movement cost, each of said values being calculated by multiplying a time unit price specific to one of said plurality of moving means for moving said identified moving body by a time period required for said movement". Grajo teaches "the flow line includes a plurality of sections corresponding to the plurality of moving means and said movement cost-calculating means calculates a total sum of values as said movement cost, each of said values being calculated by

multiplying a time unit price specific to one of said plurality of moving means for moving said identified moving body by a time period required for said movement" (see pp. 510-513; where the software sums the flows and thereby determines the weighted sum of the flows. These values are determined using movement costs parameters. The system accounts for a plurality of sections of not only a single level facility, but multiple level facilities.). The advantage of this step is that it enables a user to design or redesign an optimal floor layout for a facility while considering teach flow constraint. It would have been obvious, at the time of the invention, to one of ordinary skill in the art to combine the feature of "said movement cost-calculating means calculates a total sum of values as said movement cost, each of said values being calculated by multiplying a time unit price specific to a moving means for moving said identified moving body by a time period required for said movement" taught by Grajo to Dabbiere in order to design or redesign an optimal floor layout for a facility while considering teach flow constraint, which is a goal of Grajo (see p. 510). Claim 2 further recites limitations already addressed by the rejection of claim 1; therefore the same rejections apply to this claim.

As per claim 4, Dabbiere fails to explicitly teach "said management information generating means comprises a movement cost-evaluating means for judging whether or not a cost calculated by said movement cost-calculating means is within a permissible range and an alarm outputting means for generating an alarm when said movement cost-evaluating means judges that the cost calculated by said movement cost-calculating means is outside permissible range". Grajo teaches "said management information generating means comprises a movement cost-evaluating means for

judging whether or not a cost calculated by said movement cost-calculating means is within a permissible range" (see pp. 513-514; where the optimization looks to discover a layout with between 50-80% increase in efficiency. The 50-80% is an acceptable range.). Although Grajo and Dabbiere fail to teach "an alarm outputting means for generating an alarm when said movement cost-evaluating means judges that the cost calculated by said movement cost-calculating means is outside permissible range", Examiner takes official notice and submits that it is old and well-known in the art to enable an alarm when collected values are outside of a pre-determined permissible range. The advantage of these steps is that it enables one of ordinary skill in the art to select an optimization layout plan that is within an acceptable range of efficiency. It would have been obvious, at the time of the invention, to one of ordinary skill in the art to combine the features of "said management information generating means comprises a movement cost-evaluating means for judging whether or not a cost calculated by said movement cost-calculating means is within a permissible range" taught by Grajo and "an alarm outputting means for generating an alarm when said movement cost-evaluating means judges that the cost calculated by said movement cost-calculating means is outside permissible range" which is old and well-known, to Dabbiere in order to select an optimization plan that is acceptable, which is a goal of Grajo (see pp. 513-514).

As per claim 5, Dabbiere fails to explicitly teach "said management information generating means comprises a facility layout-optimizing means for optimizing a layout of said facility so as to minimize said movement cost". Grajo teaches "said management

information generating means comprises a facility layout-optimizing means for optimizing a layout of said facility so as to minimize said movement cost" (see p. 513; where the gather information and values is used to minimize movement costs.). The advantage of this steps is that it clearly enables a user to design or redesign an optimal floor layout for a facility. It would have been obvious, at the time of the invention, to one of ordinary skill in the art to combine the feature of "said management information generating means comprises a facility layout-optimizing means for optimizing a layout of said facility so as to minimize said movement cost" taught by Grajo to Dabbiere in order to clearly design or redesign an optimal floor layout for a facility, which is a goal of Grajo (see p. 510).

As per claim 6, Dabbiere teaches:

A facility management system according to any one of claim 1 to claim 5, wherein said flow line-measuring means installed in said facility to be monitored and said management information generating means installed in a monitoring center are connected to each other through a communication network (see column 3 lines 40-50 and figure 1; where the flow measuring object is installed in the facility and is connected to the system via a radio communication frequency network.).

As per claim 15, Dabbiere teaches:

A memory medium, which stores a program realizing any one of claim 1 to claim 11 on a computer (see figure 1; where the program is stored on a computer.).

8. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dabbiere (U.S. Patent No. 6965876) in view of Grajo (Grajo, Eric; "Strategic Layout Planning and

Simulation for Lean Manufacturing: A LayOPT Tutorial", *Proceedings of the 1995 Winter Simulation Conference*, 1995).

As per claim 3, Dabbiere teaches:

A facility management system comprising

a flow line-measuring means for measuring a flow line of a moving body by detecting said moving body in a facility to be monitored and outputting flowline information based on said measuring of said flow line (see column 3 lines 17-55 and figures 1 and 2; where the flow of equipment is monitored and is output by transmitting the information.); and

a management information generating means for producing management information for management from said flow line information (see column 3 lines 12-35 and figures 1 and 2; where the monitoring of equipment provides management with information to scrutinize and analyze.), wherein

wherein said management information generating means comprises:

moving body identifying means for identifying one of a plurality of a moving means for moving said moving body (see column 3 lines 17-35; where the object moving is identified and tracked.); and

movement cost-calculating means for calculating a cost expended on movement of said moving body from said flow line information (see column 3 lines 1-5 and figure 3; where data is analyzed to determine the productivity of the moving body. Determining the productivity is the same as determining an expended cost.).

Dabbiere fails to explicitly teach "the flow line includes a plurality of sections corresponding to the plurality of moving means and said movement cost-calculating means calculates a total sum of values as said movement cost, each of said values being calculated by multiplying a distance unit price specific to said identified moving means by a moving distance". Grajo teaches "the flow line includes a plurality of sections corresponding to the plurality of moving means and said movement cost-calculating means calculates a total sum of values as said movement cost, each of said values being calculated by multiplying a distance unit price specific to said identified moving means by a moving distance" (see pp. 510-513; where the software sums the flows and thereby determines the weighted sum of the flows. These values are determined using movement costs parameters. The system accounts for a plurality of sections of not only a single level facility, but multiple level facilities. The parameter of interest in Grajo is the distance price unit, where optimal layouts are controlled by the distance between sections.). The advantage of this step is that it enables a user to design or redesign an optimal floor layout for a facility while considering teach flow constraint. It would have been obvious, at the time of the invention, to one of ordinary skill in the art to combine the feature of "the flow line includes a plurality of sections corresponding to the plurality of moving means and said movement cost-calculating means calculates a total sum of values as said movement cost, each of said values being calculated by multiplying a distance unit price specific to said identified moving means by a moving distance" taught by Grajo to Dabbiere in order to design or redesign

an optimal floor layout for a facility while considering teach flow constraint, which is a goal of Grajo (see p. 510).

***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following are pertinent to the current invention, though not relied upon:

Armour et al. (Armour, Gordon C.; Buffa, Elwood S.; "A Heuritic Algorithm and Simulation Approach to Relative Location of Facilities", Management Science, January 1963) teaches a method of optimally arranging resources in a facility.

Bozer et al. (Bozer, Yavus A.; Meller, Russell D.; Erlebacher, Steven J.; "An Improvement-Type Layout Algorithm for Single and Multiple-Floor Facilities", Management Science, July 1994) teach applying known algorithms for arranging resources in a facility to a facility that contains a plurality of floors and sections.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kalyan K. Deshpande whose telephone number is (571)272-5880. The examiner can normally be reached on M-F 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz can be reached on (571) 272-6729. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/kkd

Beth Van Doren
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